



Project Name: Calle Azulejo Drainage Control Project

Project Number: 1477-6-4R

Disaster Name: Aspen Fire

Location: Santa Cruz County

Lat/Long: 31° 29.663' N / 111° 00.648' W

State/Completion Dates: June 19, 2006 - February 13, 2008

PROJECT SUMMARY

The neighborhood around Calle Azulejo in the small community of Rio Rico, just eight miles north of the Arizona/Mexico border, was designed in the 1960's, before the dynamics of flash flooding was completely understood. As a result of building on unstable soil in an area prone to flash floods, some houses and streets have been frequent victims to water damage - especially during monsoon season. Compounding the problem was having the flood drainage easement, which channels some of the rain water through the neighborhood, encroached upon by the construction of houses, outbuildings and fences. The force of the floodwaters carries large and small debris which gets trapped in the fences and against buildings, making the drainage easement narrower, which in turn makes the water flow faster and with more power. Where the drainage easement meets Calle Azulejo, the rushing waters would rage on across the street and into homes dumping tons of debris into the streets, yards and houses.

During the first week and a half of the July 2006 monsoon season Santa Cruz County's Flood Control District used up all of their budgeted overtime for the entire year cleaning up debris on the streets left by floods - up to 18 inches of mud, rock and woody debris.

Hazard mitigation funds were made available to Arizona communities following a 2003 wildfire disaster declaration (1477-DR-AZ - the Aspen Fire on Mount Lemmon). Santa Cruz County applied for and was awarded funding for a two-part hazard mitigation grant from FEMA to address repetitive damage done by flooding.

The first part of the project consisted of removal of the crown from Calle Azulejo and replaced the paving in a V-shape which can channel water down the middle of the road instead of propelling the water and flood debris over the crown and into private property on the downhill side of the drainage. In addition, large rip-rap was added at the foot of the hill next to the road to further direct the water and to prevent erosion.

The second part of the project involved the purchase of two land parcels and the construction of a detention basin at the top of the hill above the homes of this subdivision for the purpose of slowing the flow of water during and following heavy rain storms. The detention basin covers seven acres of land where two natural drainages converge and will be approximately nine feet deep, at maximum capacity, with a spillway designed for a 500-year flood event.

This project will not only protect lives and homes, but will also save Santa Cruz County hundreds of thousands of dollars in cleanup costs. "We use crew and equipment time to clean up the debris every time we get an inch or so of rain," explains John Hays, Floodplain Coordinator of the Santa Cruz County Flood Control District. With this project completed, that cleanup expense will be dramatically diminished.

Additionally, a new floodplain ordinance was adopted by the County in 2001 which prevents future development in flood prone areas and restricts certain activities in the designated floodplain.

PHOTOS

Before



Santa Cruz County Flood Control District was approved and awarded HMGP funding for this project on March 20, 2006. The Federal Emergency Management Agency (FEMA) approved the project with total eligible cost of \$460,856. Federal share is \$345,642 (75%) and Non-Federal share is \$115,214 (25%).

After



Calle Azulejo Drainage Control Project